
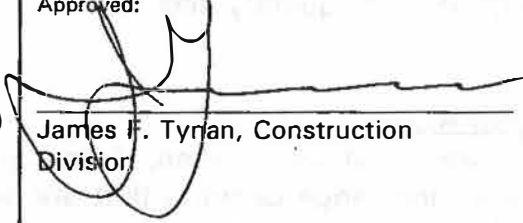


<p>SUPERSEDED BY EB 01-030 EFFECTIVE 5/30/01</p>		<p><i>New York State</i> <i>Department of</i> <i>Transportation</i> ENGINEERING INSTRUCTION</p>	<p>EI 98-022</p>
<p>Title: STANDARD SPECIFICATION SECTION 110-02 VALUE ENGINEERING</p>			
<p>Distribution:</p> <p><input type="checkbox"/> Manufacturers (18) <input type="checkbox"/> Surveyors (33)</p> <p><input checked="" type="checkbox"/> Main Office (30) <input checked="" type="checkbox"/> Consultants (34)</p> <p><input type="checkbox"/> Local Govt. (31) <input checked="" type="checkbox"/> Contractors/AGC (39)</p> <p><input checked="" type="checkbox"/> Regions/Agencies (32) <input type="checkbox"/> _____ ()</p>	<p>Approved:</p>  <p>James F. Tyrnan, Construction Division</p> <p style="text-align: right;">6-16-98 Date</p>		

EFFECTIVE DATE

Revised Section 110-02, VALUE ENGINEERING of the Standard Specifications shall be effective for all Department contracts that are let on or after September 10, 1998

PURPOSE

Supersede Section 110-02, Value Engineering of the Standard Specifications, January 2, 1995 (Metric Specifications), and supersede section 110-02 of the Addendum to the Standard Specifications, January 2, 1990 (English Specifications).

BACKGROUND

The purpose of Value Engineering is to encourage the use of the Contractor's ingenuity and experience in arriving at an equivalent alternative, lower cost construction methods than those reflected in the contract. The incentive for Contractors to submit to the Department Value Engineering Change Proposals (VECP) is the sharing with the Contractor any cost savings generated on a Department construction project as a result of a proposal or proposals offered by the Contractor or on behalf of their Subcontractor's and approved by the Department. The VECP desired are those that will produce a cost or time savings to the Department without impairing essential functions and characteristics of the facility including but not limited to, service life, economy of operation, ease of maintenance, traffic flow, safety, and desired appearance.

TRANSMITTED MATERIALS

Attached is the revised specification Section 110-02, Value Engineering.

SUMMARY OF CHANGES

The changes to the Value Engineering Change Proposals (VECP) process strengthen the incentive for Contractors to submit by reducing the risks associated with rejected proposals, by creating an informal (conceptual) proposal process, and providing some reimbursement for the Contractor's design and implementation costs. These changes will accommodate Contractors who wish to bring forward promising ideas, who may have been intimidated by the current Value Engineering proposal requirements and the potential risks involved with that process. The

new Contract Administration Manual (CAM) Section 110-02, VALUE ENGINEERING being issued by an Engineering Bulletin establishes and clarifies the Department's review and approval process to improve responsiveness to Contractor's proposals and to ensure appropriate engineering reviews and approvals occur. The approval process now addresses the issue of full, formal approval versus the need to document actual costs via force account, which frequently occurs.

COST IMPACT

Implementation of the revision of Section 110-02, Value Engineering should result in net short and long range benefits that are anticipated from these Value Engineering Change Proposals. A short range benefit is the cost savings realized from selecting the best possible equivalent alternative construction methods to perform a particular function at a lower cost. The time saved utilizing alternative construction methods mitigates the impact of construction on the traveling public. Also reducing the time to complete projects reduces the overall cost of the project and reduces the cost of construction inspection for the Department. This results in savings to the taxpayer. Long range benefits may include increasing the service life of the transportation facility and ease the maintenance of that facility. This assures the taxpayer receives full value for every dollar spent. Last, but not least is the improvement of the safety of the facility, either while under construction or after completion. Safety improvements can mitigate tort liability claims and save the State and the taxpayer millions of dollars.

ACTIONS REQUIRED BY REGIONAL DESIGN GROUP AND/OR DESIGN DIVISION

When requested the Regional Design group or Main office Design Division will calculate or evaluate savings in user delay for a VECP that proposes time savings.

CONSTRUCTION INFORMATION

The Construction Division is issuing guidance by issuing an Engineering Bulletin to add a new section to the CAM entitled Section 110-02, VALUE ENGINEERING

CONTACT

Questions regarding this Engineering Instruction concerning interpretation should be directed to Dave Kent or Lou DiLillo. Questions concerning project related issues should be directed to John Grady. They may be reached at (518) 457-6475.

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Make the following changes to the Standard Specifications of:

- a) January 2, 1990, Addendum 1, Page I-30
- b) January 2, 1995, Page 94-96

Replace §110-02- VALUE ENGINEERING in its entirety with the following:

“ SECTION 110-02 - VALUE ENGINEERING

110-02 DESCRIPTION

A. Purpose and Scope It is the intent of this provision to share with the Contractor any substantial direct cost savings which may be generated as a result of a Value Engineering Change Proposal (VECP) offered by the Contractor and approved by the Department. The purpose is to encourage the use of the Contractor's ingenuity and experience in arriving at alternative construction designs, methods and procedures that result in a lower direct cost to accomplish a prescribed function, as depicted by the existing plans and specifications, with the intention of sharing in the resulting savings.

The VECP should produce direct cost savings to the Department and the public without, in the sole judgement of the Department, impairing essential functions and characteristics of the facility including but not limited to service life, economy of operation, ease of maintenance, desired appearance and safety. The Contractor when developing a VECP must address the designers objectives, environmental permit requirements and regulations, and commitments made to the public to mitigate the impact of construction and similar concerns as part of the VECP.

For the purpose of this section; “savings” means the difference between the total actual cost to implement and construct the VECP and the cost to construct the equivalent facility in accordance with the original contract documents at the contract bid prices. The “total actual cost” is defined as the total of all the costs paid by the State to the Contractor to implement and construct the facility in accordance with the approved VECP, including design and other costs authorized for payment by the approval of the conceptual VECP.

Proposals that reduce the time to complete the project , and only result in indirect cost savings, may be accepted based on the mutual benefit derived. These proposals will be evaluated in accordance with Section F below.

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B. Submittal of Conceptual VECP A conceptual proposal is required for all VECP. It should outline the general technical concepts associated with the VECP and the estimated savings which may result. The conceptual VECP will be reviewed by the Department and could result in one of the following actions:

- Approval of the VECP.
- Conceptual approval, and a request for the Contractor to submit a formal VECP.
- Request for additional information
- Rejection of the VECP

The conceptual VECP should contain sufficient information to provide concept evaluation and review. If there are design changes, the Contractor will include in their submittal technical design criteria, proposed method of payment for the various elements and the potential environmental impacts.

The conceptual VECP will include the following as a minimum:

1. Conceptual plans.
2. Preliminary estimate of the existing design compared to the "change proposal" (i.e. estimated quantity times unit bid price, etc.). The initial estimate of costs should include sufficient information to determine the reasonableness of the conceptual VECP. The Contractor will submit a lump sum estimate of engineering, labor, materials and equipment costs.
3. The most recently approved construction progress schedule showing the impact of the VECP on the overall project schedule. The schedule shall include the time required to develop a formal VECP, if required, approve an order-on-contract to incorporate required changes, order, fabricate and deliver long lead materials, obtain any environmental permits or other required approvals. In addition, the Contractor must indicate the latest date that the conceptual VECP and the VECP order-on-contract must be approved without affecting the currently approved schedule. Should the Department find that insufficient time is available for review and processing, it may reject the VECP solely on such basis. If the Department fails to respond to the VECP by the date specified, the Contractor will consider the VECP rejected and will have no claims against the State as a result thereof.

The Department may accept VECP's that require contract time extensions if sufficient cost savings are anticipated. Construction schedules for these proposals must include all of the above information plus the new anticipated contract completion date.

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4. A description of any previous use or testing of the VECP on another Department project or elsewhere and the conditions and results therewith. The Contractor shall submit the technical aspects of the VECP in sufficient detail as to enable reviewers to determine the suitability of the VECP from an engineering perspective. If the technology is new, test information must be provided to the Department's satisfaction. If the VECP was previously submitted on another Department project, indicate the date, contract number, and the action taken by the Department.
5. An original and three copies of the conceptual VECP to the Engineer-In-Charge plus any additional information requested by the Department.

C. Submittal of Formal VECP Upon notification by the Engineer-In-Charge that the conceptual VECP is approved and a formal VECP is necessary, the Contractor will submit an original and three copies of the following materials and information with each formal VECP plus any additional information requested by the Department.

1. A description of the difference between the existing contract requirements and the proposed change, and the comparative advantages and disadvantages of each, including considerations of service life, economy of operation, ease of maintenance, traffic flow, safety, desired appearance and increase or reduction of environmental impacts.
2. Complete plans and specifications showing the proposed changes relative to the original contract features and requirements.
3. Field change sheets and/or shop drawings. If the VECP results in a field change, and those items affected require the submittal of shop drawings, the shop drawings will not be accepted unless accompanied with corresponding field change sheets.
4. A complete cost analysis indicating the quantities to be replaced by the VECP, the new costs and quantities generated by the VECP, and cost of any long lead items (e.g., materials ordered) required after conceptual approval and before final approval.
5. Cost of engineering including information concerning the direct labor, overhead rate, direct non-salary costs and profit. Payment for direct labor and profit will be limited to the current department reimbursement policies for Consultant Engineering agreements. Overhead will be paid as a percentage of the direct technical salaries and limited to the most recent audit. The rate is subject to Department policies and the State Finance Law. Payment for direct non-salary costs will be made at actual cost paid but such reimbursement shall not exceed the prevailing maximum rates established by the State Comptroller.
6. The Contractor may be required to conduct a technical presentation as part of the review process.

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7. All Formal VECP costs submitted must be supported by documentation required in Section 109-05 of the standard specifications.

D. Conditions The Contractor is cautioned not to base any bid prices on the anticipated approval of a VECP and to recognize that such VECP's may be rejected. If this occurs, the Contractor will be required to complete the contract in accordance with the plans, specifications and at the prices bid. A VECP will be considered after the contract is awarded and only when all the following conditions are met:

1. All VECPs, whether or not approved by the Department for use in this contract, apply only to the ongoing contract or contracts referenced in the proposal and become the property of the Department and will contain no restrictions imposed by the Contractor on their use or disclosure. The Department will have the right to use, duplicate and disclose in whole or in part any data necessary for the utilization of the VECP. The Department retains the right to utilize any accepted VECP or part thereof on any other project without any obligation to the Contractor submitting the same.
2. The approval of the conceptual VECP in no way obligates the Department to approve the formal VECP. Further, the Contractor will have no claim against the Department as a result of the rejection of any such conceptual or formal VECP except as otherwise provided in Section E, number 4.
3. When the Department is in the process of making design and specification revisions and a Contractor submits a VECP with these same revisions, the Department will reject the VECP and proceed to implementation without any obligation to the Contractor.
4. The Department will be the sole judge as to whether a VECP qualifies for consideration and evaluation. It may reject any VECP that requires excessive time or costs for design review, evaluation and/or investigations, or which is not consistent with the Department's design policies and basic design criteria for the project.
5. A VECP must be consistent with the Department's design policies and basic design criteria, provide the same service life or more, facilitate economy of operations, ease of maintenance, and achieve the desired appearance and safety. A proposal will not be allowed that changes the type and/or thickness of the pavement structure and material, or solely substitutes one material for another. Example of materials that fall into inappropriate substitution situation are drainage pipes, bridge coatings, pavement markings, etc. Also, the simple elimination of work does not necessarily constitute a VECP.
6. The VECP will not be experimental in nature, but will have been proven to the Department's satisfaction under similar or acceptable conditions on another Department project or at another location acceptable to the Department.

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7. A VECP will be considered only if equivalent options are not already provided in the contract documents.
8. The Department will be the sole judge in determining if the proposed VECP will result in a sufficient amount of direct or indirect savings to offset the Department's effort to review the VECP.
9. If the Department requires any additional information to evaluate the VECP, this information must be provided in a timely manner. Unless mutually agreed to otherwise, failure to do so will result in the rejection of the VECP. Incomplete or a poor quality VECP which hinder the Department's review, may also result in the rejection of the VECP.
10. The Contractor shall encourage submissions of VECP from an approved Subcontractor, provided that reimbursement is made by the Department to the Contractor and that the terms of payment to the subcontractor are satisfactorily negotiated and accepted before the VECP is submitted to the Department. Subcontractors may not submit a VECP except through the prime Contractor.
11. VECP's approved by the Department are considered to be revisions to the plans, specifications and estimates for the project. Consequently, if unsatisfactory results are being achieved or adjustments are necessary during implementation of a VECP, the rejection, removal and new/revised items of work would be evaluated in accordance with the standard specifications.
12. The Contractor will receive written notification from the Department when the VECP is approved. The Contractor will not order any materials until they have received the approval.

E. Payment If the VECP is accepted by the Department, the changes and payment will be authorized through the Order-On-Contract process. Reimbursement to the Contractor will be made as follows:

1. The changes will be incorporated into the contract via changes in the quantities of unit bid items, new agreed price items or by force account, as appropriate, in accordance with the standard specifications. The total actual cost of the revised work as determined from the aforementioned changes in quantities, new items or force account will be paid at the completion of the work and the final accounting of all relevant items.
2. In addition to such payment, the Department will pay to the Contractor 50 percent of the savings to the Department as reflected by the difference between the amount paid and the cost of the related construction required by the original contract plans and specifications computed at the contract bid prices.
3. A 50 percent share of the Contractor's reasonable costs for design subject to Department reimbursement policies, after conceptual approval. Reasonable

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design costs are interpreted to be between 10 percent - 12 percent of the cost of the work of the VECP. These costs are to be included when calculating the net savings of the VECP.

4. In the event of the Department's conceptual approval of a direct cost savings VECP, and the Contractor is directed to proceed with the VECP implementation steps and final approval is not reached, reimbursement of the implementation costs will be limited to 50 percent. If "advance" written approval was given to proceed with the work, procure materials, begin fabrication, and rejection occurs, the work and fabrication costs will be reimbursed in accordance with Section 109-05 of the standard specifications. Regarding materials, only those items not incorporated and unique to the project (i.e. not restockable) will be evaluated for payment under Section 109-05 of the standard specifications.
5. There will be no reimbursement for any costs incurred prior to the approval of the conceptual VECP.
6. When multiple submittals are required to satisfy the basic information needs of the "conceptual or formal" VECP procedure, and contract timing will be negatively impacted before review and subsequent approval can be given by the Department, then the VECP may be rejected. In such cases, there will be no claim by the Contractor for development costs and loss of anticipated savings and/or profits.
7. If the contract contains an A+B or other time-related provisions, and the VECP results in both indirect cost savings (reducing time to complete the project) and direct cost savings, the indirect savings will be paid to the Contractor through the incentive portion of the contract, and the direct cost savings through the VECP.

F. TIME SAVINGS The Department will consider proposals that result in time savings and at the same time increases the cost of the project. The Department will be the sole judge as to whether the benefits of completing the project or a project phase before the scheduled completion date or milestone, offsets any increase to the cost of the project. These submittals, while not constituting Value Engineering, will be reviewed using the VECP approval process. In addition to information required in Section B&C, the Contractor shall provide the Department sufficient information to enable the Department to calculate and evaluate the cost benefit of the savings in user delay. For complex proposals the Contractor may be required to calculate the savings in user delay in accordance with Department procedures.